

**METHOD AND APPARATUS FOR MONITORING AND CONTROLLING  
IMAGING IN IMMERSION LITHOGRAPHY SYSTEMS**

**ABSTRACT OF THE DISCLOSURE**

A method of monitoring an immersion lithography system in which a wafer  
5 can be immersed in a liquid immersion medium. The method detects an index of  
refraction of the immersion medium in a volume of the immersion medium  
through which an exposure pattern is configured to traverse and determines if the  
index of refraction is acceptable for exposing the wafer with the exposure pattern.  
Also disclosed is a monitoring and control system for an immersion lithography  
10 system.

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